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10/585,738	07/12/2006	Ooe Masayuki	1270-46327X00	7230
20457 7590 04/14/2009 ANTONELLI, TERRY, STOUT & KRAUS, LLP 1300 NORTH SEVENTEENTH STREET SUITE 1800 ARLINGTON, VA 22209-3873				
EXAMINER				
HIGGINS, GERARD T				
ART UNIT		PAPER NUMBER		
1794				
MAIL DATE		DELIVERY MODE		
04/14/2009		PAPER		

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/585,738

Applicant(s)

MASAYUKI ET AL.

Examiner

GERARD T. HIGGINS

Art Unit

1794

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 February 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SG/US)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Applicant's amendment filed 02/17/2009 has been entered. Currently claims 1-15 are pending and claims 11-15 are new.

Claim Objections

2. Claims 12-13 are objected to because of the following informalities:
 - a. The phrase "wherein amount of said compound" is awkward. It is unclear if this is a new term or a term that draws antecedent basis in a previous claim. Perhaps applicants meant "wherein **an** amount of said compound."Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claim 14 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the written description requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The Examiner does not find support for saying the phrase "alkali aqueous developing solution;" however, the Examiner does note on page 18 of applicants' substitute specification filed on 07/12/2006 at [0063] that the developing solution may be an "alkaline aqueous solution." Applicants are not supported for the subgroup of "alkali aqueous developing solution;" however, they have written descriptive support for the specific alkaline solutions seen at [0063].

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 12-13 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claims 12 and 13 recite the limitation "the composition" in the third line of each claim. There is insufficient antecedent basis for this limitation in the claim. Perhaps applicants meant "the photosensitive polymer composition," which is how the limitation will be treated for the purpose of examination.

Claim Rejections - 35 USC § 102

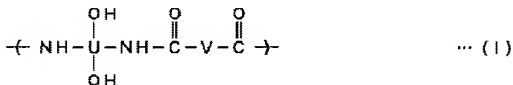
7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

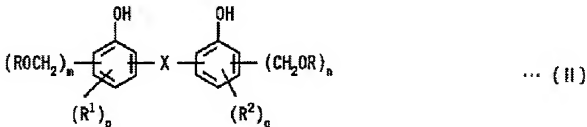
(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. Claims 1, 3-10, and 12-15 are rejected under 35 U.S.C. 102(b) as being anticipated by Tadayuki et al. (JP 2001-312063), machine translation provided.

With regard to claim 1, Tadayuki et al. disclose a photosensitive polymer composition [0001]. The composition is comprised of a polyamide of Formula (I), component (a) [0008],



a compound that generates an acid upon light excitation, component (b) [0008], and the compound (II), component (c) [0009]



The subscripts 'p' and 'q' may be zero and the subscripts 'm' and 'n' may be 1 or 2 [0009]. The substituent 'R' may be an alkyl group [0009], wherein alkyl clearly includes methyl and ethyl as seen at [0040], please see substituents "methoxymethyl" and "ethoxymethyl." The substituent 'X' may be a propylene group or of the type of an ethylidene group, and all of the substituents on said group may be made to be fluorine atoms [0038]. This means that Tadayuki et al. disclose a 1,1,1,3,3,3-hexafluoropropyl group, which anticipates applicants' claim 1.

With regard to claim 3, when 'm' and 'n' are 2 and 'X' comprises said 1,1,1,3,3,3-hexafluoropropyl group as is disclosed above, the structure implied by Formula (II) discloses the same compound as is claimed.

With regard to claim 4, the component (b) may be 5-100 parts by weight to component (a) [0036] and the component (c) may be 1-30 parts by weight to component (a) [0041].

With regard to claim 5, there may be a component (d) identical to that claimed [0042].

With regard to claim 6, the composition of component (d) is identical to that claimed [0044].

With regard to claim 7, the component (b) may be 5-100 parts by weight to component (a) [0036], the component (c) may be 1-30 parts by weight to component (a) [0041], and the component (d) may be 0.01-30 parts by weight based upon component (a) [0047].

With regard to claim 8, the process of using said photosensitive polymer composition is disclosed at [0051] and [0052]. It includes applying the composition to a substrate and drying said composition, an exposure process using light [0052], a development process, and then a heat-treating process [0051].

With regard to claim 9, see claim 9 of Tadayuki et al., which discloses said i-line.

With regard to claim 10, the method can be used to form an electronic part containing said composition as an interlayer film or a surface protection film [0001].

With regard to claims 12 and 13, the amount of component (c) is disclosed at [0041] and includes the preferential ranges of 1-30 and 5-20 parts per 100 parts of component (a), identical to that claimed.

With regard to claim 14, Tadayuki et al. disclose the developing solution at [0052], including alkaline aqueous solutions identical to that claimed (e.g. sodium hydroxide).

With regard to claim 15, Tadayuki et al. disclose a heat treatment step identical to that claimed at [0053], including 150-450 degree range identical to that claimed.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 2 and 11 are rejected under 35 U.S.C. 103(a) as being unpatentable over Tadayuki et al. (JP 2001-312063) in view of Matsuishi et al. (US 2003/0204117).

Tadayuki et al. disclose all of the limitations of applicants' claim 1 in section 5 above; however, they fail to disclose a crosslinker, component (c), that is comprised of a 3,5-bis(hydroxymethyl) substituent or that each of the Rs is hydrogen, i.e. hydroxymethyl substituents.

Matsuishi et al. disclose a 3,5-bis(hydroxymethyl) substituted polyfunctional phenols (Abstract). It can be apart of a bivalent group with the substituent 'X' being of

General structure (IV), wherein the substituents R_7 and R_8 can each be a trifluoromethyl group. Matsuishi et al. disclose that this material is known to be good with photoresist materials [0002] and can provide property-modifying effects, such as improving the water repellency of phenol resins and resistance to heat [0005].

Since Tadayuki et al. and Matsuishi et al. are both drawn to photoresist materials; it would have been obvious to one having ordinary skill in the art at the time the invention was made to substitute the functional equivalent compound of Matsuishi et al. as the component (c) of Tadayuki et al. These compounds are analogs; further, one of ordinary skill would know to make a series of compounds including the methoxymethyl and hydroxymethyl compounds. The motivation for using this compound in the photosensitive composition is the fact that Matsuishi et al. recognize it as good for photoresists and can provide enhanced water-repellency of resins formed from these compounds.

Response to Arguments

11. Applicant's arguments, see Remarks, filed 02/17/2009, with respect to the objections to the claims have been fully considered and are persuasive. The relevant objections have been withdrawn.

12. Applicant's arguments filed 02/17/2009 have been fully considered but they are not persuasive.

Applicants argue that Tadayuki et al. does not teach or suggest the component (c) of their invention, and that there are "many different materials for the component (c)."

The Examiner respectfully disagrees and notes that the Examiner has set forth a factual determination that the disclosure of Tadayuki et al. does in fact teach a photosensitive polymer composition, a method of producing a pattern using the photosensitive polymer composition, and an electronic part produced by the method of producing a pattern using the photosensitive polymer composition. The Examiner specifically pointed to parts of the disclosure of Tadayuki et al. that shows the component (c) of their invention, including the specific substituents thereon. The Examiner notes that the substituent 'R' may be an alkyl group [0009], wherein alkyl clearly includes methyl and ethyl as seen at [0040], please see substituents "**methoxymethyl**" and "**ethoxymethyl**." These substituents read on applicants' component (c).

It has been held that "[w]hen the compound is not specifically named, but instead it is necessary to select portions of teachings within a reference and combine them, e.g., select various substituents from a list of alternatives given for placement at specific sites on a generic chemical formula to arrive at a specific composition, anticipation can only be found if the classes of substituents are sufficiently limited or well delineated. Ex parte A, 17 USPQ2d 1716 (Bd. Pat. App. & Inter. 1990). If one of ordinary skill in the art is able to "at once envisage" the specific compound within the generic chemical formula, the compound is anticipated. One of ordinary skill in the art must be able to draw the structural formula or write the name of each of the compounds included in the generic

formula before any of the compounds can be "at once envisaged." One may look to the preferred embodiments to determine which compounds can be anticipated. *In re Petering*, 301 F.2d 676, 133 USPQ 275 (CCPA 1962)." Please see MPEP 2131.02. The Examiner holds that the disclosure of Tadayuki et al. is clearly "sufficiently limited or well delineated" and anticipates applicants' claimed component (c) because the position set forth above and the fact that Tadayuki et al. disclose at [0010] that the 'X' group may be an ethylidene group of Formula 7 with 1-10 carbon atoms as the substituents 'A.' This disclosure in combination with [0038], which states that some or all of the hydrogen atoms of these hydrocarbon groups may be replaced with fluorine, clearly teaches a fluoroalkyl group having 1 to 3 carbon atoms as claimed.

Applicants then argue that their invention shows unexpected results over that of Tadayuki et al.

The Examiner notes that arguments of unexpected results are reserved for rejections under 35 U.S.C. 103(a) obviousness. The present rejection of claims 1, 8, and 10 continues to be an anticipation rejection; furthermore, it is noted that applicants are not comparing the closest prior art compounds that the Examiner has set forth in his rejection and the claims are not commensurate in scope with the alleged showing of unexpected results.

Applicants then argue that Matsuishi et al. is non-analogous art.

Applicants' are reminded that according to MPEP 2141.01 (a), a reference may be relied on as a basis for rejection of an applicants' invention if it is "reasonably pertinent to the particular problem with which the inventor is concerned." A reasonably

pertinent reference is further described as one which "even though it maybe in a different field of endeavor, it is one which, because of the matter with which it deals, logically would have commended itself to an inventor's attention in considering his problem." Matsuishi et al. is, therefore, a reasonably pertinent reference, because it teaches that their inventive compounds have use in photoresist materials, including providing heat resistance and water-repellancy, which is a function especially pertinent to the invention at hand as well as that of Tadayuki et al.

The Examiner also notes that it has been held that "[a]n obviousness rejection based on similarity in chemical structure and function entails the motivation of one skilled in the art to make a claimed compound, in the expectation that compounds similar in structure will have similar properties." Please see MPEP 2144.09, *In re Payne*, 606 F.2d 303, 313, 203 USPQ 245, 254 (CCPA 1979), *In re Papesch*, 315 F.2d 381, 137 USPQ 43 (CCPA 1963), and *In re Dillon*, 919 F.2d 688, 16 USPQ2d 1897 (Fed. Cir. 1991). Matsuishi et al. disclose compounds that are close in chemical structure; further, they suggest that these compounds will provide heat resistance. The Examiner maintains that it would have been obvious to one having ordinary skill in the art to have the Rs of the component (c) be hydrogen as claimed. The results of such a substitution would have been predictable to one having ordinary skill.

Conclusion

13. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to GERARD T. HIGGINS whose telephone number is (571)270-3467. The examiner can normally be reached on M-F 9:30am-7pm est. (1st Friday off).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kevin Bernatz, acting SPE for Carol Chaney, can be reached on 571-272-1505. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Gerard T Higgins
Examiner
Art Unit 1794

/Gerard T Higgins/
Examiner, Art Unit 1794

/Kevin M Bernatz/
Acting SPE of Art Unit 1794

April 9, 2009